Permit Modification Fact Sheet

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for complete permit information

General Information

Permit Number:	WI-0003620-08-1
Permittee Name:	Domtar A W LLC
Owner Address	**Domtar A W LLC** 301 Point Basse Ave Nekoosa WI 54457
Facility Address:	**Nekoosa Mill** 301 Point Basse Ave Nekoosa, WI 54457 **Wastewater Reclamation Center** 405 Church Ave, Nekoosa, Wisconsin NW ¼ of Section 2, Town of Saratoga **Nekoosa Coated Products, LLC.** 841 Market St Nekoosa, WI 54457
Discharge Location:	Outfall 002: Submerged and located just north of the Wastewater Reclamation Center at 44° 20' 0" N 89° 53' 0" W Outfall 005: SW 1/4, SW 1/4, Section 31, T22N, R6E, Town of Grand Rapids, Wood County Outfall 006: Below the Nekoosa Mill at 44° 18' 45" N 89° 53' 45" W Outfall 008: Below the Nekoosa Mill Outfall 010: On DNR approved sites in the state of Wisconsin Outfall 011: East of Nekoosa Dam across the Wisconsin River from the Nekoosa Mill.
Receiving Waters:	Wisconsin River, groundwaters in Wood County, and land application sites in Adams, Juneau, Portage, Waushara, and Wood Counties
StreamFlow ($Q_{7,10}$):	1200 cfs
Stream Classification:	Warmwater sport fish community, non-public water supply

Facility Description

Wastewater Reclamation Center: The Wastewater Reclamation Center (WRC) treats process wastewaters from the Nekoosa mill, Nekoosa Coated Products, Inc, and site landfill leachates. The WRC is located between Port Edwards and Nekoosa. Process wastewaters including all vacuum pump seal waters from the Nekoosa mill, process wastewaters from Nekoosa Coated Products, ash-bark landfill leachate, and storm water.

The WRC provides primary clarification, UNOX high purity oxygen activated sludge, and secondary treatment. Two

lined lagoons provide flow equalization, cooling, and some BOD removal (35-40%) for primary clarifier effluent prior to discharge to the UNOX biological treatment system. Average TSS and BOD removal efficiencies are nominally 97% after secondary treatment. The treated wastewater is sent through a parshall flume for measurement of flow prior to final discharge to the Wisconsin River via Outfall 002. The WRC discharges its sanitary wastes to an on-site septic system. The solids that settle in the primary and secondary clarifiers get transported to gravity belt thickeners, and are then processed by progressive cavity screw presses. The solids then collect on a concrete pad until they are removed via trailer for field spreading via Outfall 010 on DNR approved sites or landfilled if field spreading demand is low.

Nekoosa Mill: Domtar A. W. LLC (Domtar) operates an integrated Kraft pulp and paper mill in Nekoosa which is capable of producing 600 tons per day of air dried kraft pulp and 600 tons per day of finished paper. Paper is made by using kraft pulp produced at the facility from raw logs, purchased wood chips, bleached pulp purchased from other mills, broke and recycled paper. The final products from the facility are rolls of paper. The Nekoosa bleach plant has been elemental chlorine free (ECF) since mid-1998.

The Nekoosa Mill utilizes cooling water and process water from 2 water intakes; Nepco Lake and Wisconsin River. Water that is not used in the papermaking process and utilized for cooling, discharges through Outfall 006 to the Wisconsin River. The mill does have an emergency outfall for the mill's main collection tank to Wisconsin River (Outfall 008). Outfall 011 is an outfall of Nepco Lake water with an intermittent discharge for the purpose of equalizing water pressure levels to the mill; this standpipe outfall discharges to the Wisconsin River. The Nekoosa mill discharges sanitary wastes to the Nekoosa municipal wastewater treatment plant.

Domtar treats water withdrawn from Nepco Lake for use by the Nekoosa mill. Intake water treatment consists of alum or alum plus polymer addition followed by solids settling in a baffled basin and screening before entering the mill. The settling basins are dredged every three to five years and dredged solids are placed into a dewatering basin. Decant from the dewatering basin flows back to the settling basins. Domtar hauls solids from the dewatering basin to one of its licensed landfills near the WRC. Neither the dewatering basin nor the settling basins are lined. However, sand is place on the bottom of the dewatering basin. Consequently, current and proposed permits classify seepage from the basins as a groundwater discharge via Outfall 005.

Nekoosa Coated Products, LLC: The Wastewater Reclamation Center treats processed wastewaters from the Nekoosa Coated Products, Inc. (NCP). NCP facility has an off-machine paper coater that utilizes water-based materials for standard paper coatings and discharges between 15,600 to 21,800 gallons per day of wastewater into the process wastewater stream. Testing is done on the wastewater prior to coming into Nekoosa's Mill wastewater collection system.

Permit Modification Description

On December 7, 2020, Domtar submitted a request to the department to modify the WPDES permit. Domtar requested the following:

- Evaluate information from NCP regarding its past and present use of per- and polyfluoroalkyl substances (PFAS) containing coating materials and voluntary PFAS testing data for NCP and include a new in-plant sampling point for the process wastewater line from NCP. The PFAS test data included the Wisconsin 36 PFAS analytes. The testing was conducted at NCP's wastewater tank prior to release to the Nekoosa Mill's wastewater treatment plant. Domtar also provided voluntary testing of PFAS at Outfall 002 that followed Wisconsin PFAS testing protocol.
- Evaluate final total phosphorus effluent limits based on the now approved Site-Specific Criteria (SSC) under the Wisconsin River Basin TMDL and include updated phosphorus multi-discharger variance (MDV) language based on the final derived TMDL limits using the approved SSC.

On February 2, 2021, Domtar requested that the permit modification also include the representative sampling method for Outfall 005 based on the Sampling Method Evaluation Report for Outfall 005 received on January 18, 2021 and approved on January 27, 2021.

In support of the request relating to PFAS, Domtar submitted the following:

- January 18, 2021 Technical Memorandum with test results for 36 PFAS from samples taken at Outfall 002 on November 18 and 20, 2020.
- May 21, 2020 letter to Adrian Stocks describing PFAS use and PFAS testing conducted by NCP in late 2019/early 2020.
- PFAS test results collected by NCP at its wastewater tank (T-7) in September 2019, February 2020 and March 2020.

On March 4, 2021, Domtar requested that the permit modification also include representative sampling of the WRC sludge. In support of that request, Domtar provided to the department on March 5, 2021, voluntary PFAS sampling of the WRC sludge conducted on November 20, 2020, that was analyzed and validated on January 27, 2021.

The Department may modify a permit upon request by the permittee for one of the causes listed in s. NR 203.136, Wis. Adm. Code. The Department determined cause exists under s. NR 203.136(1)(b) and (f), Wis. Adm. Code for modifying the permit. As stated in s. NR 203.135(5)(b), Wis. Adm. Code, only those conditions to be modified shall be reopened when a draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the existing permit.

Fact Sheet Organization

This fact sheet highlights changes in permit conditions that the Department proposes to make when modifying the Domtar - Nekoosa WPDES permit. This fact sheet compares conditions in the previous permit to those in the modified permit. The permit remains in effect until the permit is modified. The tables that follow were taken from the permit and are numbered in this fact sheet as they are numbered in the permit. Shaded text and cells within tables indicate permit conditions that are new or different from those found in the previous permit.

1 Influent Requirements – Cooling Water Intake Structure (CWIS)

1.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
701	Intake number 701 represents the Nekoosa mill's Nepco Lake intake.
702	Intake number 702 represents the Nekoosa mill's Wisconsin River intake.

1.2 Monitoring Requirements and BTA Determinations

The permittee shall comply with the following monitoring requirements.

The intake(s) has been reviewed for compliance with BTA (Best Technology Available) standards and the BTA determination(s) is listed below.

1.2.1 Sampling Point 701 - Nepco Lake Intake

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	See Section 1.2.1.1 for more detail.
Intake Water Used Exclusively For Cooling		% Flow	Annual	Estimated	

Changes from Previous Permit:

No major changes were made to Sampling Point 701 for this permit modification.

Explanation of Limits and Monitoring Requirements

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for the explanation of limits and monitoring requirements.

1.2.2 Sampling Point 702 - Wisconsin River Intake

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	See Section 1.2.2.1 for more detail.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Intake Water Used Exclusively For Cooling		MGD	Annual	Estimated	

Changes from Previous Permit:

No major changes were made to Sampling Point 702 for this permit modification.

Explanation of Limits and Monitoring Requirements

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for the explanation of limits and monitoring requirements.

2 In-Plant Requirements

2.1 Sampling Point(s)

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
101	At in-plant Sampling Point 101 (NK BLEACH PLANT D1), overflow from the first stage chlorine dioxide washer seal box (D1) in the Nekoosa mill's pulp bleach plant shall be sampled prior to combining with overflow from either the enhanced caustic washer seal box (EOP) or the second stage chlorine dioxide washer seal box (D2).
102	At in-plant Sampling Point 102 (NK BLEACH PLANT EOP), overflow from the EOP stage in the Nekoosa mill's pulp bleach plant shall be sampled prior to combining with overflow from either the D1 or D2 stages.
103	At in-plant Sampling Point 103 (NK BLEACH PLANT D2), overflow from the D2 stage in the Nekoosa mill's pulp bleach plant shall be sampled prior to combining with overflow from either the D1 or EOP stages.
104	At in-plant Sampling Point 104 (NK D1, EOP and D2 COMBINED), overflow from the Nekoosa mill's D1, EOP and D2 bleach stages shall be sampled after mixing, but prior to combining with other waste streams from the Nekoosa mill's chlorine dioxide plant and tall oil plant.
106	At in-plant Sampling Point 106 (NK INFLUENT FORCE MAIN), process wastewaters from the Nekoosa mill shall be sampled after mixing at the mill's main collection tank, but prior to discharge to the Wastewater Reclamation Center.
109	Field blank to accompany mercury monitoring at the Wastewater Reclamation Center
110	**At in-plant Sampling Point 110 (NCP WASTEWATER TANK), the permittee shall sample the process wastewaters from Nekoosa Coated Products (NCP) at the NCP wastewater tank prior mixing with other waste streams in mill's main collection tank.**

2.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

2.2.1 Sampling Point 101 - NK BLEACH PLANT D1; 102- NK BLEACH PLANT EOP; 103- NK BLEACH PLANT D2

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Weekly	Estimated	See Sections 2.2.1.1 and 2.3 for more detail.
Chloroform		mg/L	Weekly	Grab Comp	See Sections 2.2.1.2 and 2.3 for more detail.

Changes from Previous Permit:

No major changes were made to Sampling Points 101, 102, and 103 for this permit modification.

Explanation of Limits and Monitoring Requirements

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for the explanation of limits and monitoring requirements.

2.2.2 Sampling Point 104 - NK D1, EOP and D2 COMBINED

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	Flow rate monitoring is not required if the permittee continues to submit monthly certifications for chloroform. See Section 2.3 for more detail.
Dioxin, 2,3,7,8-TCDD	Daily Max	<10 pg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
Furan, 2,3,7,8-TCDF	Daily Max	31.9 pg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
Chloroform	Daily Max	6.7 lbs/day	Weekly	Calculated	Sampling for chloroform is not required if the permittee continues monthly certifications, see Section 2.3 for more detail. If sampling is required, see Section 2.2.2.4 for more detail.
Chloroform	Monthly Avg	4.01 lbs/day	Weekly	Calculated	Sampling for chloroform is not required if the permittee continues to submit monthly certifications, see Section 2.3 for more detail. If sampling is required, see Section 2.2.2.4 for more detail.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Trichloro- syringol	Daily Max	<2.5 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
3,4,5-Trichloro-catechol	Daily Max	<5.0 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
3,4,6-Trichloro-catechol	Daily Max	<5.0 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
3,4,5-Trichloro-guaiacol	Daily Max	<2.5 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
3,4,6-Trichloro-guaiacol	Daily Max	<2.5 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
4,5,6-Trichloro-guaiacol	Daily Max	<2.5 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
2,4,5-Trichloro-phenol	Daily Max	<2.5 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
2,4,6-Trichloro-phenol	Daily Max	<2.5 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Tetrachloro- catechol	Daily Max	<5.0 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
Tetrachloro- quaiacol	Daily Max	<5.0 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
2,3,4,6-Tetra-chlorophenol	Daily Max	<2.5 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.
Pentachloro- phenol	Daily Max	<5.0 µg/L	Annual	24-Hr Comp	Sampling for this parameter is waived, see Section 2.5. If sampling is required, see Sections 2.2.2.1 - 2.2.2.3 for more detail.

Changes from Previous Permit:

No major changes were made to Sampling Point 104 for this permit modification.

Explanation of Limits and Monitoring Requirements

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for the explanation of limits and monitoring requirements.

2.2.3 Sampling Point 106 - NK INFLUENT FORCE MAIN

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Total Daily	See Section 2.2.3.1 for more detail.
pH (Maximum)		su	Daily	Grab	See Section 2.2.3.1 for more detail.
pH (Minimum)		su	Daily	Grab	See Section 2.2.3.1 for more detail.
Phosphorus, Total		mg/L	Monthly	Grab	See Section 2.2.3.1 for more detail.

Changes from Previous Permit:

No major changes were made to Sampling Point 106 for this permit modification.

Explanation of Limits and Monitoring Requirements

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for the explanation of limits and monitoring requirements.

2.2.4 Sampling Point 109 - WRC MERCURY FIELD BLANK

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Mercury, Total Recoverable		ng/L	Quarterly	Blank	See Section 2.2.4.1 for more detail.

Changes from Previous Permit:

No major changes were made to Sampling Point 109 for this permit modification.

Explanation of Limits and Monitoring Requirements

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for the explanation of limits and monitoring requirements.

2.2.5 Sampling Point 110 - NCP WASTEWATER TANK

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		**MGD**	**Daily**	**Total Daily**	
PFAS		**ng/L**	**Quarterly**	**Grab**	**Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Section below for more information.**

Changes from Previous Permit:

This is a new in-plant sampling point added under Sections 2.1 and 2.2.5 from the previous permit. Sampling Point 110 includes flow rate monitoring and sampling for 33 PFAS.

Explanation of Limits and Monitoring Requirements

Domtar currently receives process wastewater from Nekoosa Coated Products, Inc. (NCP). NCP facility has an off-machine paper coater that utilizes water-based materials for standard paper coatings and will discharge between 15,600 to 21,800 gallons per day of wastewater to Domtar. Per- and polyfluoroalkyl substances (PFAS) containing coating materials were used historically at NCP and continue to be used by NCP as documented in the May 21, 2020 letter to the department. The process wastewater from NCP has varying levels of PFAS, as documented in testing conducted in September 2019, February 2020 and May 2020. For instance, PFOA was measured in February 2019 at level of 140 ng/L.

Therefore, the department is adding monitoring for the 33 PFAS analytes set forth in Wisconsin DNR PFAS Update, effective March 1, 2021, utilizing the Analysis Requirements and Expectations set forth in the Update. The analyte list to be tested and test requirements and expectations should reflect any changes or additions to the Wisconsin DNR's PFAS Default Reporting List for Sampling, as amended. Any updates on PFAS sampling parameters and test methods can be found here: https://dnr.wisconsin.gov/topic/Contaminants/Labs.html. This sampling will characterize the wastewater for PFAS from NCP and also serve to track the effect of minimization methods being implemented at NCP. The results of the sampling from monitoring of PFAS from the NCP wastewater tank will be used to assess potential PFAS presence in the discharge from Outfall 002. The data will be used by the department to evaluate PFAS levels and, if appropriate, assess the need for water quality-based effluents limits at a later time.

3 Surface Water Requirements

3.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
002	At Sampling Point 002, final effluent from the Wastewater Reclamation Center shall be sampled prior to discharge to the Wisconsin River via Outfall 002. Outfall 002 is submerged and located just north of the WRC at 44° 20' 0" N 89° 53' 0" W.
006	At Sampling Point 006, noncontact cooling waters (No. 6 Turbine condenser, chlorine dioxide plant chiller and other sources) shall be sampled after mixing, but prior to discharge to the Wisconsin River via Outfall 006. Outfall 006 is located below the Nekoosa Mill at 44° 18' 45" N 89° 53' 45" W.
008	At Sampling Point 008 (NK COLLECTION TANK OVERFLOW), the Nekoosa mill's main collection tank emergency overflow shall be sampled prior to discharge to the Wisconsin River via Outfall 008. Outfall 008 is located at the Nekoosa Mill.
011	At Sampling Point 011, overflow from treated Nepco Lake water standpipe shall be sampled in such a manner that is representative of the discharge to the Wisconsin River via Outfall 011. Outfall 011 is located east of Nekoosa Dam across the Wisconsin River from the Nekoosa Mill.

3.2 Monitoring Requirements and Effluent Limitations

The permittee shall comply with the following monitoring requirements and limitations.

3.2.1 Sampling Point (Outfall) 002 - WRC EFFLUENT

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
BOD_5, Total	Daily Max	12,039 lbs/day	Daily	Calculated	Effective May through October each year. See Sections 3.2.1.1 and 3.2.1.2
BOD_5, Total	Monthly Avg	6,252 lbs/day	Daily	Calculated	Effective May through October each year. See Sections 3.2.1.1 and 3.2.1.2

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD_5, Total		mg/L	Daily	24-Hr Flow Prop Comp	Effective May through October each year. See Sections 3.2.1.1 and 3.2.1.2
BOD_5, Total	Daily Max	12,039 lbs/day	2/Week	Calculated	Effective November through April each year. See Sections 3.2.1.1 and 3.2.1.2
BOD_5, Total	Monthly Avg	6,252 lbs/day	2/Week	Calculated	Effective November through April each year. See Sections 3.2.1.1 and 3.2.1.2
BOD_5, Total		mg/L	2/Week	24-Hr Flow Prop Comp	Effective November through April each year. See Sections 3.2.1.1 and 3.2.1.2
Suspended Solids, Total	Daily Max	24,263 lbs/day	Weekly	Calculated	See Sections 3.2.1.1 and 3.2.1.3
Suspended Solids, Total	Monthly Avg	13,045 lbs/day	Weekly	Calculated	See Sections 3.2.1.1 and 3.2.1.3
Suspended Solids, Total		mg/L	Weekly	24-Hr Flow Prop Comp	See Sections 3.2.1.1 and 3.2.1.3
pH (Minimum)	Daily Min	5.0 su	Daily	Continuous	See Section 3.2.1.4
pH (Maximum)	Daily Max	9.0 su	Daily	Continuous	See Section 3.2.1.4
pH Total Exceedance Time Minutes	Monthly Total	446 minutes	Daily	Continuous	See Section 3.2.1.4
pH Exceedances Greater Than 60 Minutes	Monthly Total	0 Number	Daily	Continuous	See Section 3.2.1.4
AOX	Daily Max	921 lbs/day	Weekly	Calculated	See Section 3.2.1.5
AOX	Monthly Avg	603 lbs/day	Weekly	Calculated	See Section 3.2.1.5
AOX		mg/L	Weekly	24-Hr Flow Prop Comp	
Phosphorus, Total	Monthly Avg	1.0 mg/L	Weekly	24-Hr Flow Prop Comp	This is an interim MDV limit effective through September 30, 2020. See the MDV/Phosphorus subsections and phosphorus schedules.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Phosphorus, Total	Monthly Avg	0.8 mg/L	Weekly	24-Hr Flow Prop Comp	This is an interim MDV limit effective on October 1, 2020. See the MDV/Phosphorus subsections and phosphorus schedules.
Phosphorus, Total		lbs/day	Weekly	Calculated	
Phosphorus, Total		lbs/month	Monthly	Calculated	**Report the total monthly phosphorus discharged in lbs/month on the last day of the month on the DMR. See MDV section below and Standard Requirements for 'Appropriate Formulas' to calculate the Total Monthly Discharge in lbs/month.**
Phosphorus, Total		lbs/yr	Annual	Calculated	**Report the sum of the total monthly discharges for the calendar year on the Annual report form. See MDV section below and Standard Requirements for 'Appropriate Formulas' to calculate the Total Annual Discharge in lbs/yr.**
Temperature Maximum		deg F	Daily	Continuous	See Section 3.2.1.6
Chlorine, Total Residual		µg/L	Monthly	Grab	Monitor Only - Effective January 1, 2020 through December 31, 2020. See Section 3.2.1.7
Dioxin, 2,3,7,8-TCDD	Monthly Avg	1.2 µg/day	Annual	Calculated	See Sections 3.2.1.8, 3.2.1.9, and 3.2.1.15.
Dioxin, 2,3,7,8-TCDD TE	Monthly Avg	11 µg/day	Annual	Calculated	See Sections 3.2.1.8, 3.2.1.9, and 3.2.1.15.
Mercury, Total Recoverable	Daily Max	15 ng/L	Quarterly	Grab	This is an alternative effluent limitation. See Sections 3.2.1.10 and 3.2.1.11 for more detail.

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
WLA Previous Day River Flow		cfs	Daily	Continuous	See Section 3.2.1.16
WLA Previous Day River Temp		deg F	Daily	Continuous	See Section 3.2.1.16
WLA Value		lbs/day	Daily	Calculated	See Section 3.2.1.16
WLA Adjusted Value		lbs/day	Daily	Calculated	See Section 3.2.1.16
WLA BOD_5 Discharged	Daily Max - Variable	lbs/day	Daily	Calculated	See Section 3.2.1.16
WLA 5 Day Sum of WLA Values		lbs/day	Daily	Calculated	See Section 3.2.1.16
WLA 5 Day Sum of BOD_5 Discharged	Daily Max - Variable	lbs/day	Daily	Calculated	See Section 3.2.1.16
Acute WET	Daily Max	1.0 TU_a	See Listed Qtr(s)	24-Hr Flow Prop Comp	See Section 3.2.1.13
Chronic WET		TUc	See Listed Qtr(s)	24-Hr Flow Prop Comp	See Section 3.2.1.13
Dioxins & Furans (all congeners)		µg/L	Annual	Composite	As specified in ch. NR 106.115(2), Wis. Adm. Code.
PFAS		**ng/L**	**Annual**	**Grab**	**Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Section below for more information.**

Changes from Previous Permit

- The department modified the note language for reporting monthly and annual phosphorus loadings to reference the current permit sections under Section 3.2.1.
- The department has added annual sampling for 33 PFAS under Section 3.2.1 for Outfall 002 based on Wisconsin DNR PFAS Update-Default Reporting List for Sampling and Analysis Requirements and Expectations, as amended (current version dated March 1, 2021).
- The department updated the language under the MDV requirements in Section 3.2.1.14 to reflect the change in the target value from 0.2 mg/L to the final TMDL derived limit of 100 lbs/day.
- The department has added Section 3.2.1.17 explaining the TMDL limits for the facility and how the MDV applies.

- The department has added Section 3.2.1.18 explaining what PFAS parameters are to be sampled and test methods to be used based on Wisconsin DNR PFAS Update-Default Reporting List for Sampling and Analysis Requirements and Expectations, as amended (current version dated March 1, 2021).

Explanation of Limits and Monitoring Requirements

PFAS: Domtar voluntarily collected and analyzed wastewater effluent samples for per- and polyfluoroalkyl substances (PFAS) at Outfall 002. For Outfall 002, the level of PFOA averaged at 3.2 ng/L (based on five samples) and PFOS had an average of <0.52 ng/L (based on five samples). All other PFAS compounds were measured at or near non-detectable levels (parts per trillion). Annual monitoring for PFAS compounds following the protocol in Wisconsin DNR PFAS Update-Default Reporting List for Sampling and Analysis Requirements and Expectations, as amended (current version dated March 1, 2021), will be performed as well as a PFAS analysis to be submitted with the application for the next permit reissuance. The PFAS analyte list may be amended upon the adoption by the department of updated list of PFAS analytes and test methodologies. Any updates on PFAS sampling parameters and test methods can be found here: https://dnr.wisconsin.gov/topic/Contaminants/Labs.html.

Wisconsin River Total Maximum Daily Load (TMDL): Domtar is included within the Wisconsin River Basin Total Maximum Daily Load (TMDL), which was approved by EPA April 26, 2019. The TMDL establishes Waste Load Allocations (WLAs) for point source dischargers and determines the maximum amounts of phosphorus that can be discharged and still protect water quality. The final effluent limits and monitoring expressed in the permit were derived from Site-Specific Criteria (SSC) for Lakes Petenwell, Castle Rock, and Wisconsin originally included in Appendix K of the TMDL report and approved by the U.S. Environmental Protection Agency on July 9, 2020. The permittee's approved SSC-based limits are consistent with the assumptions and requirements of the EPA-approved WLA in the TMDL, which is 18,088 lbs/yr for Domtar - Nekoosa.

The approved TMDL expresses WLAs as lbs/year and lbs/day (maximum annual load divided by 365 days). As outlined in Section 4.6 of the department's *TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Program*, mass limits must be given in the permit that are consistent with the TMDL WLA and the phosphorus impracticability agreement that was approved by USEPA in 2012 (see NPDES MOA Addendum dated July 12, 2012 at https://prodoasint.dnr.wi.gov/swims/downloadDocument.do?id=167886175). Continuously discharging facilities covered by the WRB TMDL are given monthly average mass limits. If the equivalent effluent concentration is less than or equal to 0.3 mg/L, six-month average mass limits (averaging period of May through October and November through April) are also included. The equivalent effluent concentration of 0.35 mg/L was calculated for the facility, thus, TMDL based mass limit is only expressed as a monthly average. The department calculated a final TMDL derived mass limit of 100 lbs/day for total phosphorus expressed as a monthly average.

However, the permittee currently has a Multi-Discharger Variance (MDV) for phosphorus and is effective for the duration of the permit. An interim limit of 0.8 mg/L went into effect per the MDV compliance schedules and will remain in effect unless a more stringent limit is required at a future permit issuance by ss. NR 217.13 and NR 217.16(2), Wis. Adm. Code. The Final TMDL WLA-based effluent limits of 100 lbs/day as a six-month average will go into effect in accordance with the MDV conditions. The final TMDL derived limit is applied as the MDV target value. The target value was changed from 0.2 mg/L to the TMDL derived limit of 100 lbs/day. Annual payment calculation formulas were modified to reflect this change in the target value. Conditions of the MDV require the permittee to optimize phosphorus removal throughout the proposed permit term, comply with interim limits and make annual payments to participating county(s) by March 1 of each year based on the pounds of phosphorus discharged during the previous year in excess of the specified target value.

For more information on the calculation of the final total phosphorus TMDL derived limit, please see the memo entitled "Phosphorus Water Quality-Based Effluent Limitations for Domtar-Nekoosa -WPDES Permit No. (WI-0003620-08-1 in Wood County)" dated February 5, 2021 prepared by Rachel Fritz attached to this fact sheet.

3.2.2 Sampling Point (Outfall) 006 - NK CLEAR SEWER NCCW

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Daily	Continuous	
Temperature Maximum	Daily Max	120 deg F	Daily	Continuous	**Daily maximum limit of 120 deg F is effective for all months except for August and September. See Section 3.2.2.1**
Chlorine, Total Residual	Daily Max	38 µg/L	Monthly	Grab	See Section 3.2.2.2
Chlorine, Total Residual	Monthly Avg	38 µg/L	Monthly	Grab	See Section 3.2.2.2

Changes from Previous Permit

- The department has added a clarifying note for maximum temperature under Section 3.2.2 stating that the daily maximum limit of 120°F is effective for all months except for August and September. This exception was missed during the previous permit.

Explanation of Limits and Monitoring Requirements

Temperature Maximum: For the previous permit, the department determined that there was a reasonable potential for effluent temperature to exceed the public health limit of 120°F in all months except August and September at Outfall 006. The discharge monitoring reports for the facility reflected this exception. However, the department did not clarify in the permit that the daily maximum limit of 120°F was not effective for August and September. Therefore, the department has added a note to the permit explaining this exception at Outfall 006.

3.2.3 Sampling Point (Outfall) 008 - NK COLLECTION TANK OVERFLOW

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		MGD	Per Occurrence	Estimated	See Section 3.2.3.1
BOD_5, Total		lbs/day	Per Occurrence	Grab	See Section 3.2.1.1
Suspended Solids, Total		lbs/day	Per Occurrence	Grab	See Section 3.2.1.1
pH Field	Daily Max	9.0 su	Per Occurrence	Grab	
pH Field	Daily Min	5.0 su	Per Occurrence	Grab	

Changes from Previous Permit

No major changes were made to Sampling Point 008 for this permit modification.

Explanation of Limits and Monitoring Requirements

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for the explanation of limits and monitoring requirements.

3.2.4 Sampling Point (Outfall) 011 - NEPCO LAKE STANDPIPE OVERFLOW

Changes from Previous Permit

No major changes were made to Sampling Point 011 for this permit modification.

Explanation of Limits and Monitoring Requirements

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for the explanation of limits and monitoring Requirements.

4 Land Treatment Requirements

4.1 Sampling Point(s)

The discharge(s) shall be limited to the waste type(s) designated for the listed sampling point(s).

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, Waste Description/Sample Contents and Treatment Description (as applicable)**
005	**At Sampling Point 005, the permittee shall take representative samples of the alum sludge filtrate of dredged alum sludge placed in the Nepco Lake alum sludge dewatering basin. This sample will be used as the representative sample of the groundwater discharge from the Nepco Lake alum sludge dewatering basin via Outfall 005. The Nepco Lake alum sludge dewatering basin is located in the SW 1/4, SW 1/4, Section 31, T22N, R6E, Village of Port Edwards, Wood County.**

4.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

4.2.1 Sampling Point (Outfall) 005 - NEPCO LAKE ALUM SLUDGE BASIN

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
pH Field		su	Per Occurrence	Grab	Sample per dredging event of the alum settling basin.
Aluminum Dissolved		mg/L	Per Occurrence	Grab	Sample per dredging event of the alum settling basin.
Manganese Dissolved		mg/L	Per Occurrence	Grab	Sample per dredging event of the alum settling basin.
Nitrogen, Nitrite + Nitrate (as N) Dissolved		mg/L	Per Occurrence	Grab	Sample per dredging event of the alum settling basin.

Changes from Previous Permit

- The department updated the sampling point location and description under Section 4.1 based on the recommended sampling method for Outfall 005
- The department removed monitoring for COD, dissolved copper, dissolved lead, and dissolved zinc under Section 4.2.1 for Outfall 005.

Explanation of Limits and Monitoring Requirements

The department had concluded that the concentration of the supernatant as identified as Sampling Point 005 does not equal the concentration of the groundwater discharge below the Nepco Lake alum dewatering basin. Therefore, the supernatant is not a representative sample of the groundwater discharge below the Nepco Lake alum dewatering basin. The department requires that the permittee determine a representative sampling method of the groundwater discharge

below the Nepco Lake alum dewatering basin. The permittee was required to submit an evaluation and determination of a representative sampling method of the groundwater discharge below the Nepco Lake alum dewatering basin by September 30, 2021 to the department. The department will then issue an approval or denial on the option selected by the facility on whether the method will provide representative sampling results. On January 18, 2021, Domtar submitted "Alum Sludge Dewatering Basin Evaluation" to the department as required by the Sections 4.3 and 6.9 under the previous permit. The department agreed and the approved this evaluation report on January 27, 2021. The department is using the results and recommendations of this evaluation to modify the sampling method and sampling parameter for Outfall 005. The department now requires that Domtar sample the alum sludge filtrate of the dredged alum sludge per dredging event. The alum sludge filtrate has been determined to be representative of the discharge to groundwater below the Nepco Lake alum dewatering basin. The department removed monitoring for dissolved copper, dissolved lead, and dissolved zinc these metals were either not detected, or detected at low concentrations well below groundwater preventative action levels and enforcement standards in ch. NR 140, Wis. Adm. Code. The department removed monitoring for COD as COD was either not detected or detected at low concentration and it may not be representative as sand placed on the bottom of the basin is major source of COD.

5 Land Application Requirements

5.1 Sampling Point(s)

The discharge(s) shall be limited to land application of the waste type(s) designated for the listed sampling point(s) on Department approved land spreading sites or by hauling to another facility.

Sampling Point Designation	
Sampling Point Number	**Sampling Point Location, WasteType/Sample Contents and Treatment Description (as applicable)**
010	At Sampling Point 010, combined primary and secondary cake sludge from the Wastewater Reclamation Center shall be sampled after thickening and prior to land application via Outfall 010. Outfall 010 is located at Department approved land application sites.

5.2 Monitoring Requirements and Limitations

The permittee shall comply with the following monitoring requirements and limitations.

5.2.1 Sampling Point (Outfall) 010 - WRC SLUDGE

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Solids, Total		Percent	Annual	Grab Comp	
pH Field		su	Annual	Grab Comp	See Section 5.5.4.
Nitrogen, Total Kjeldahl		Percent	Annual	Grab Comp	See Section 5.5.1
Nitrogen, Ammonia (NH_3-N) Total		Percent	Annual	Grab Comp	
Phosphorus, Total		Percent	Annual	Grab Comp	
Phosphorus, Water Extractable		% of Tot P	Annual	Grab Comp	
Potassium, Total Recoverable		Percent	Annual	Grab Comp	
Cadmium Dry Wt		mg/kg	Annual	Grab Comp	See Sections 5.5.2 and 5.5.3
Copper Dry Wt		mg/kg	Annual	Grab Comp	See Section 5.5.2
Lead Dry Wt		mg/kg	Annual	Grab Comp	See Section 5.5.2
Nickel Dry Wt		mg/kg	Annual	Grab Comp	See Section 5.5.2
Zinc Dry Wt		mg/kg	Annual	Grab Comp	See Section 5.5.2
Chloride		Percent	Once	Grab Comp	Sampling only required in the calendar year of 2021.

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Sulfate, Total		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Aluminum Dry Wt		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Barium, Total Recoverable		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Boron Dry Wt		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Calcium Dry Wt		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Chromium Dry Wt		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Iron Dry Wt		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Magnesium Dry Wt		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Manganese Dry Wt		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Molybdenum Dry Wt		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Sodium Dry Wt		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Strontium		mg/kg	Once	Grab Comp	Sampling only required in the calendar year of 2021.
Dioxin, 2,3,7,8-TCDD TE		ng/kg	Once	Calculated	See Section 5.5.6. Sampling only required in the calendar year of 2021.
PFAS Dry Wt		**ng/kg**	**Annual**	**Grab**	**Perfluoroalkyl and Polyfluoroalkyl Substances based on updated DNR PFAS List. See PFAS Section below for more information.**
Dioxins & Furans (all congeners)		ng/kg	Once	Grab Comp	As specified in ch. NR 106.115(2), Wis. Adm. Code.
Priority Pollutant Scan			Once	Grab	As specified in ch. NR 215.03 (1-6), Wis. Adm. Code (excluding asbestos).

Changes from Previous Permit:

- The department has added annual sludge sampling for 33 PFAS under Section 5.2.1 for Outfall 010 based on Wisconsin DNR PFAS Update-Default Reporting List for Sampling and Analysis Requirements and Expectations, as amended (current version dated March 1, 2021).
- • The department has added Section 5.2.1.6 to permit explaining what PFAS parameters are to be sampled and test methods to be used based on Wisconsin DNR PFAS Update-Default Reporting List for Sampling and Analysis Requirements and Expectations, as amended (current version dated March 1, 2021).

Explanation of Limits and Monitoring Requirements

Domtar voluntarily collected and analyzed a sludge sample for PFAS. The results show PFOA and PFMPA both at estimated values of 0.9 ug/kg (PFOA) and 1.1 ug/kg (PFMPA). Both reported results were between the method detection and method quantification limits. All other PFAS analytes were measured at non-detectable levels (parts per billion). The sampling results will be used in conjunction with the monitoring of PFAS from Outfall 002 and the NCP wastewater tank to assess PFAS in the sludge. Annual sampling for PFAS will be done on a "grab" basis consistent with guidance developed by the Michigan Environmental Great Lakes and Energy (EGLE) and set forth in EGLE's "Biosolids and Sludge Sampling Guidance October 2019." Testing will follow the protocol in the Wisconsin DNR PFAS Update-Default Reporting List for Sampling and Analysis Requirements and Expectations, as amended (current version dated March 1, 2021). A PFAS analysis will be submitted with the application for the next permit reissuance. Any updates on PFAS sampling parameters and test methods can be found here: https://dnr.wisconsin.gov/topic/Contaminants/Labs.html.

6 Schedules

Changes from Previous Permit:

- Representative Sample Determination has been removed.

Explanation of Limits and Monitoring Requirements

Representative Sample Determination: This schedule has been removed as the permittee and department have determined the representative sampling method and location for Outfall 005.

7 Standard Requirements

Changes from Previous Permit:

The standard requirements remain unchanged for this permit modification.

Explanation of Limits and Monitoring Requirements

Refer to the Fact Sheet for WPDES Permit No. WI-0003620-08-0 for the explanation on standard requirements

8 Summary of Reports Due

The summary of reports due has been updated to reflect all reports due which includes the removal of the representative sample determination schedule from required action items.

Attachments:

"Phosphorus Water Quality-Based Effluent Limitations for Domtar-Nekoosa -WPDES Permit No. (WI-0003620-08-1 in Wood County)" dated February 5, 2021 prepared by Rachel Fritz

Prepared By:

Trevor Moen
Wastewater Engineer
Bureau of Water Quality

Date: 03/24/21

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: February 5, 2021

TO: Trevor Moen – NER/Oshkosh

FROM: Wade Strickland – WY/3

SUBJECT: Phosphorus Water Quality-Based Effluent Limitations for Domtar-Nekoosa - WPDES Permit No. (WI-0003620-08-1 in Wood County).

This is in response to your request for an evaluation of the need for updated total phosphorus limitations for Domtar-Nekoosa. The wastewater treatment facility (WWTF) discharges at a max annual average flow rate of 16.74 MGD to the Wisconsin River in the Fourmile and Fivemile Creek Watershed in the Upper Wisconsin River Basin. This discharge is included in the Wisconsin River TMDL as approved by EPA on April 26, 2019 with site-specific criteria approved by EPA on July 9, 2020.

The current permit, effective since 2018, has an interim limit of 0.80 mg/L under the multi-discharger variance since October 2020. The following review is based on the Wisconsin River Basin Total Maximum Daily Load (TMDL) which was developed by the Department. This document can be found at: https://dnr.wi.gov/topic/TMDLs/WisconsinRiver/. Recommendations are made in accordance with chapters NR 102, 104, 105, 106, 207, 212, and 217 of the Wisconsin Administrative Code, where applicable.

Effluent Information

- Flow: Max Annual Average Flow = 16.74 MGD. For reference, the actual average flow from December 2015 to November 2020 was 16.21 MGD.
- Effluent characterization: This facility is categorized as a primary industrial discharge
- Monitoring data: Data submitted by the facility to the department from December 2015 to November 2020 was used in this evaluation
- Total Phosphorus Wasteload Allocation: 18,088 lbs/year (see Appendix K of the TMDL document)

TMDL Limits – Phosphorus

Total phosphorus (TP) effluent limits in lbs/day are calculated as recommended in the *TMDL Development and Implementation Guidance: Integrating the WPDES and Impaired Waters Programs (*May 2020). The wasteload allocations (WLA) that implement site-specific criteria for Lakes Petenwell, Castle Rock, and Wisconsin are found in Appendix K of the *Total Maximum Daily Loads for Total Phosphorus in the Wisconsin River Basin (WRB TMDL)* report dated April 26, 2019 and are expressed as maximum annual loads (lbs/year) and maximum daily loads (lbs/day). The WLA that implement statewide criteria found in Appendix J of the TMDL report are no longer applicable following approval of these site-specific criteria. The daily WLAs in the WRB TMDL equals the annual WLA divided by the number of days in the year. Therefore, the daily WLA is an annual average. Since the derivation of daily WLAs from annual WLAs does not take effluent variability or monitoring frequency into consideration, maximum daily WLAs from the WRB TMDL should not be used directly as permit effluent limits.

For the reasons explained in the April 30, 2012 paper entitled *Justification for Use of Monthly, Growing Season and Annual Average Periods for Expression of WPDES Permit Limits for Phosphorus Discharges in Wisconsin*, WDNR has determined that the phosphorus WQBELs set equal to WLAs would not be consistent with the assumptions and requirements of the TMDL.

Therefore, limits given to continuously discharging facilities covered by the WRB TMDL are given monthly average mass limits. If the equivalent effluent concentration is less than or equal to 0.3 mg/L, six-month average mass limits are also included. The following equation shows the calculation of equivalent effluent concentration:

TP Equivalent Effluent Concentration = Daily WLA ÷ (Flow Rate * Conversion Factor)
= 49.6 lbs/day ÷ (16.74 MGD * 8.34)
= 0.35 mg/L

Since this value is greater than 0.3 mg/L, the WLA should be expressed as a monthly average mass limit for total phosphorus and no six-month average limit is required.

TP Monthly Average Permit Limit = daily WLA * monthly average multiplier
= 49.6 lbs/day * 2.01
= 100 lbs/day

The multiplier used in the monthly average calculation was determined according to TMDL implementation guidance. A coefficient of variation was calculated, based on phosphorus mass monitoring data, to be 0.69. This value, along with monitoring frequency, is used to select the multiplier. The current permit specifies phosphorus monitoring as weekly; if a different monitoring frequency is used, the stated limits should be reevaluated.

The WRB TMDL establishes TP wasteload allocations to reduce the loading in the entire watershed including WLAs to meet water quality standards for tributaries to the Wisconsin River. Therefore, WLA-based WQBELs are protective of immediate receiving waters and TP WQBELs derived according to s. NR 217.13, Wis. Adm. Code are not required.

Since wasteload allocations are expressed as annual loads (lbs/yr), permits with TMDL-derived monthly average permit limits should require the permittee to calculate and report rolling 12-month sums of total monthly loads for TP. Rolling 12-month sums can be compared directly to the annual wasteload allocation.

Effluent Data

The following table lists the statistics for effluent phosphorus levels from December 2015 to November 2020 for informational purposes. In the cases where reporting the mass discharge is not required in the current permit, the mass is calculated using the reported phosphorus concentration and the effluent flow rate for that day.

Total Phosphorus Statistics		
	Concentration (mg/L)	Mass Discharge (lbs/day)
1-day P_{99}	0.75	106
4-day P_{99}	0.44	62.0
30-day P_{99}	0.29	39.9
Mean	0.22	30.0
Std	0.15	20.7
Sample Size	146	146
Range	0.05 - 0.83	6.46 - 122

Over the last five years, there would have been only two exceedances of the 100 lbs/day limit (3% of months). Based on this effluent data, a compliance schedule does not appear to be needed to meet the final TMDL limits. The current concentration limit of 0.8 mg/L should be continued in the permit to prevent backsliding.

Conclusions:
In summary, the following limits are recommended by this evaluation:

- Monthly average Total Phosphorus mass limit of 100 lbs/day
- Monthly average Total Phosphorus concentration limit of 0.80 mg/L

If there are any questions or comments, please contact Rachel Fritz at (608) 267-7657 or Rachel.Fritz@wisconsin.gov or Diane Figiel at (608) 264-6274 or Diane.Figiel@wisconsin.gov.

PREPARED BY: Rachel Fritz Date: 2/5/21
Rachel Fritz, Water Resources Engineer

E-cc: Peter Pfefferkorn, Basin Engineer – WCR/Wisconsin Rapids